VOL. VI  ★  ★  NO. III

# NEWSLETTER

*Ensign's sub-mission*  1st March 2013



*Here's the latest shot of my Type 212 U-boat undergoing ballast trials*

## Skipjack and Delphin



*Great news for sub fans!*

Recently released by Mobius is this huge 1:72 scale injection moulded kit of the American Skipjack Class nuclear submarine. It was developed in consultation with a prominent American model submariner to be suitable for RC conversion and is over a metre long. A quick check on pricing indicates a cost of around US$90+$50 shipping or $170 in local stores.

*(Below)* I have started a design study on a 1:10 scale version of my Delphin midget submarine, with the size growing to 100mm dia by 550 long in order to incorporate some features I just couldn't squeeze into the original 1:12 model.
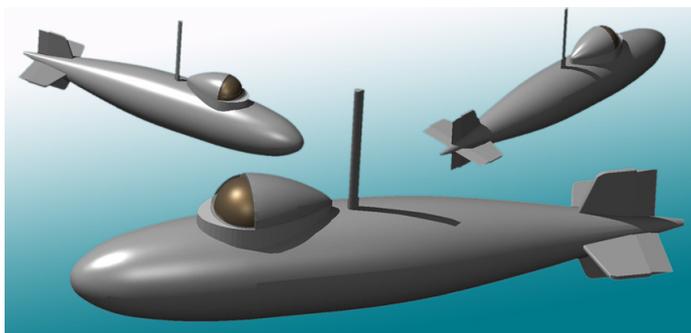


## Computer aided modelling 4 - CAD          *Part 2*

As your CAD skills grow, you will naturally want to apply them to the drawing of hull lines and plot the frames you will need to make your model. If you a working from a small printed drawing in, say, an old book, you need to scan this drawing and import it into your CAD program so you can trace over it to produce a CAD drawing which you can then stretch, scale or otherwise manipulate to your requirements. Make sure your CAD program can do this, some, such as AutoCAD LT, cannot import bitmaps.
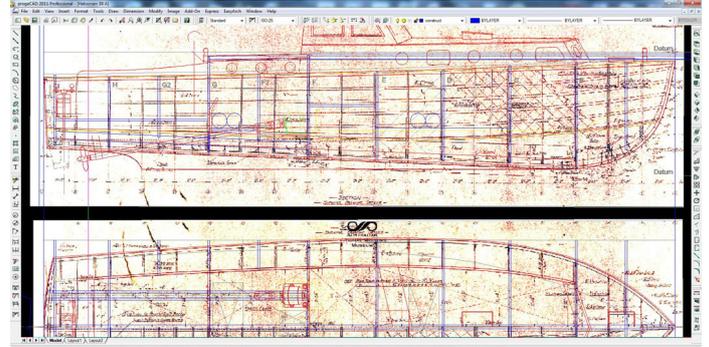


*Original drawing of a full-size boat being traced into CAD*

Once you have traced the hull lines, you can project the hull sections to produce the frame outlines at the required intervals (a knowledge of ship's drawings is obviously still required). The OFFSET command alone is almost worth the cost of the CAD package, for you can now set the intended hull thickness (eg 3.5mm) and instantly have the frame redrawn that much smaller to provide the internal frame outline. Frames may be accurately printed on an ink-jet or laser printer at home, and stuck to ply for rapid cutting to size.
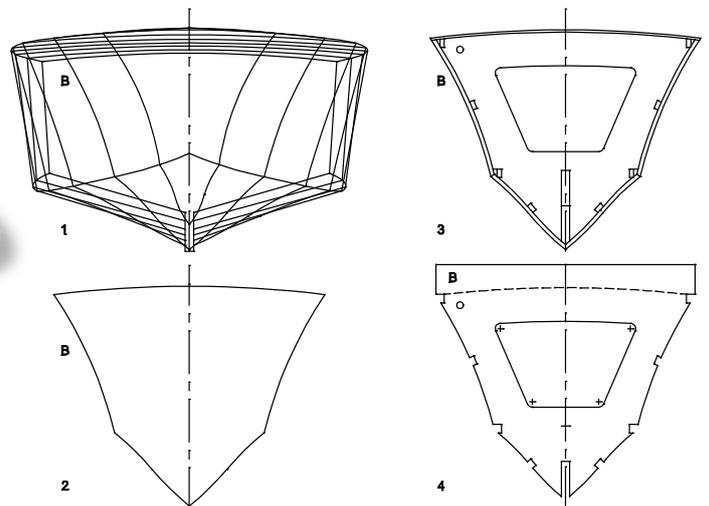


1. *Plotted family of hull sections*      3. *Structure added* (OFFSET)
2. *Section removed for development*   4. *Frame template for cutting*

Larger drawings may be printed at a local printing outlet at a typical cost of $7 for an A0 print (1188 x 840mm). A DXF file can also be produced that will enable you to have intricate parts cut by laser or CNC router. Drawings can be sent electronically (the file size is small) and scaled up or down at any time. You can establish the area, volume, centre of buoyancy or other property of complex shapes, work with imperial or metric units, measure plotted angles or work in 3D. Once you've experienced how a CAD program can benefit your model making, you won't want to be without it.